MAJOR COURSES

CE 111 Introduction to Civil Engineering .......................... 1
1 CE 112 Design Principles in Civil Engineering .............. 2
1 CE 113 Computer-Aided Drafting in Civ Engr .............. 2
9 CE 201 Mechanics of Materials (6) or CE 204, CE 207 Mechanics of Materials I, II (3)(2.2)(12/1/15) ................ 5-6
5 CE 321, 322 Fund Transportation Engr and Lab .............. 3,2
5 CE 251 Numerical Methods in Civil Engineering .......... 4
4 CE 259 Civil Engineering Materials ............................. 2
2 CE 336 Water Resources Engineering ............................ 4
1 CE 337 Hydraulics Laboratory ..................................... 1
4 CE 351 Structural Analysis ......................................... 4
4 CE 355 Reinforced Concrete Design .............................. 4
4 CE 356 Structural Steel Design ..................................... 4
4 CE 381, 382 Geotechnical Engineering and Lab ............ 4,1
4 CE 466, 467 or CE 468, 469 ...................................... 3,5
2,3 Technical electives ................................................. 24

In consultation with faculty advisor, select 24 units from CE 371 or CM 371, any 400-500 level CE and ENVE courses not required in the major, ENVE 325, and a maximum of 4 units from the following list: (5/21/13)
4 ARCE 305, 372, 403;
4 BRAE 345, 447, 532;
4 CE/ME/BMED 404;
4 CE 465 (4/11/15)
4 CHEM 318, 341;
4 CM 333, 364, 432, 454;
4 CRP 420, 435;
4 CRP/NR 404, 408,
4 ERSC/GEOL 401, 402;
4 GEOL 415;
4 IME 314;
4 MATE 425, 450;
4 MATH 344;
4 LA/NR 318;
4 SS 423, 442;
4 BIO/NR 421

(12/1/15) 73-74

SUPPORT COURSES

BIO 213 and ENGR/BRAE 213 (B2)* ......................... 2,2
BRAE 239 Engineering Surveying . ............................. 4
CHEM 124 Gen Chem for Engineering (B3/B4)* ............ 4
CHEM 125 Gen Chem for Engineering .......................... 4
ENG 149 Technical Writing for Engineers (A3)* ............ 4
ENVE 331 Intro to Environmental Engineering .............. 4
GEOL 201 Physical Geology ....................................... 3
MATE 210 Materials Engineering ................................ 3
MATE 215 Materials Laboratory I* .............................. 1
MATH 141, 142 Calculus I, II (B1)* ............................ 4,4
MATH 143 Calculus III (Add’l Area B)* ...................... 4
MATH 241 Calculus IV .................................................. 4
MATH 244 Linear Analysis I ........................................ 4
ME 211 Engineering Statics ........................................ 3
ME 212 Engineering Dynamics .................................... 3
ME 302 Thermodynamics ......................................... 3
ME 341 Fluid Mechanics I ......................................... 3
PHYS 141 General Physics IA (Add’l Area B)* ............. 4
PHYS 132, 133 General Physics II, III .................................. 4,4
STAT 312 Statistical Methods for Engineers (B6)* ....... 4

Select 3 units from:
4 CSC 231, 234, 270, 341, 342;
4 EE 201; IME 314; MATH 206, 211, 304, 344

GENERAL EDUCATION (GE)

72 units required, 32 of which are specified in Support.
→ See page 39 for complete GE course listing.
→ Minimum of 8 units required at the 300 level.

Area A Communication (8 units)

A1 Expository Writing .................................................. 4
A2 Oral Communication .............................................. 4
A3 Reasoning, Argumentation, and Writing * 4 units in Support .................................................. 0

Area B Science and Mathematics (no addl units req’d)

B1 Mathematics/Statistics * 8 units in Support.. 0
B2 Life Science * 4 units in Support .................. 0
B3 Physical Science * 4 units in Support ............ 0
B4 One lab taken with either a B2 or B3 course
B5 (not required for Engineering students)
B6 Upper-division Area B * 4 units in Support .. 0
Additional Area B units * 8 units in Support..... 0
Area C Arts and Humanities (16 units)
C1 Literature ............................................................ 4
C2 Philosophy .......................................................... 4

1 CE 114 substitutes for CE 112 and CE 113.
2 Consultation with advisor is recommended prior to selecting technical electives or approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
3 Additional guidelines for technical electives:
   a) More than 4 units of coursework outside CE/ENVE is only permitted in special/unusual cases and requires written justification by the student, and approval by the Department Chair.
   b) No more than 4 combined units of CE 400, 500 and ENVE 400, 500 can count towards the degree require a course substitution form and no more than 4 total units are allowed. (10/15/15)
   c) No more than 8 combined units of CE/ENVE 470, 471, 570, 571 can be credited.
   d) Co-op, graduate seminar, senior project/design, and thesis courses are not permitted.
   e) Only one course can be credited for CE 458/558; 459/556.

4 The courses selected to satisfy this requirement may not be used to satisfy other major, support, or general education requirements (no double counting of coursework).
5 If CE 251 is taken for 2 units then an additional 2 units of Technical Electives is required. (6/7/13)
6 If CE 207 is taken for 2 units then one additional unit of Technical Electives is required the department waives the third unit. (7/30/15)(12/1/15)
C3 Fine/Performing Arts .................................. 4  
C4 Upper-division elective .................................. 4  

**Area D/E  Society and the Individual (16 units)**  
D1 The American Experience (40404) ............... 4  
D2 Political Economy ........................................ 4  
D3 Comparative Social Institutions ..................... 4  
D4 Self Development (CSU Area E) ...................... 4  

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1 The American Experience (40404)</td>
<td>4</td>
</tr>
<tr>
<td>D2 Political Economy</td>
<td>4</td>
</tr>
<tr>
<td>D3 Comparative Social Institutions</td>
<td>4</td>
</tr>
<tr>
<td>D4 Self Development (CSU Area E)</td>
<td>4</td>
</tr>
</tbody>
</table>

**FREE ELECTIVES** ........................................ 0  

(12/1/15)  

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>195 - 196</td>
</tr>
</tbody>
</table>

195 - 196